

Name: _____ TP: _____

HW#5A FORM A: Midpoint
Geometry
 Due Date: Thursday, Sept. 6th, 2012

Failure to show work on all problems or use complete sentences will result in a LaSalle.

1. Find the coordinates of the midpoint of the segment with the given endpoints.

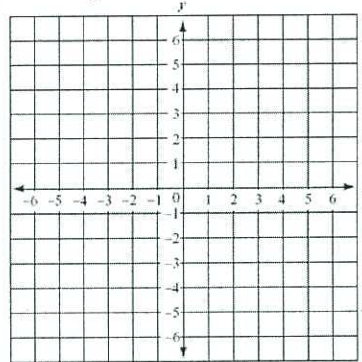
a. $R(3, 1)$ and $S(3, 7)$

FORMULA $\left(\left[\frac{x_1 + x_2}{2} \right], \left[\frac{y_1 + y_2}{2} \right] \right)$

b. $V(2, 4)$ and $W(6, 6)$

2. The endpoints of QR are $Q(-5, 1)$ and $R(6, 5)$.

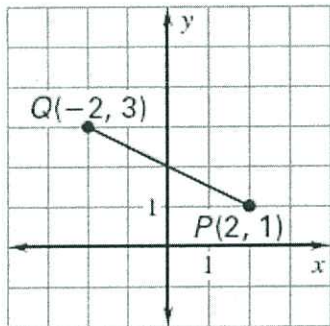
a. Graph the coordinates.



(Lean, Drop)

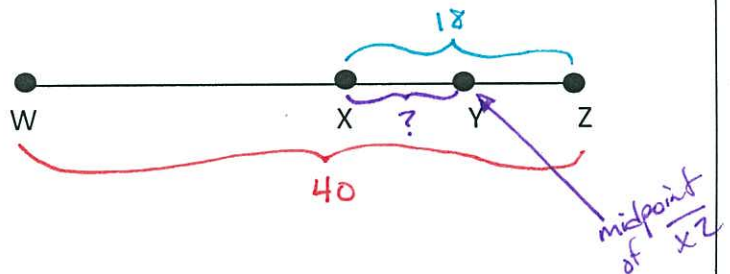
b. Find the coordinates of the midpoint M .

3. Find the midpoint of the segment QP .

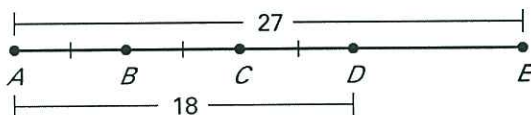


You can do this mathematically or by sight.

4. Points $W, X, Y,$ and Z are collinear. $WZ = 40$, $XZ = 18$, and Y is the midpoint of XZ . What is the length of XY ?



5. Find the indicated length.



a. DE

b. AB

c. AC SKIP

d. BD

e. CE

f. BE SKIP

6. On a number line, point Q is located at 10, point R is located at -5, and point S is located at -13.

a. Draw a number line.

b. Find the length of QS .

c. Find the length of RS .

d. How much longer is Segment QS than RS ?

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$$m = \frac{(y_2) - (y_1)}{(x_2) - (x_1)}$$

7. Given the two points $(-2, -1)$ and $(4, 5)$, calculate the slope of the line.

8. Find the slope from these two points:

$(5, 20)$, $(-14, 18)$

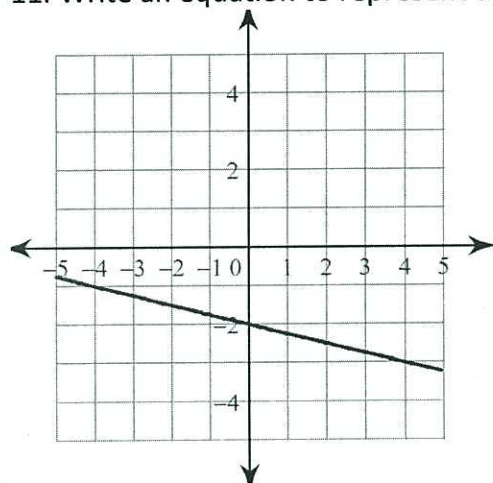
9. What is the slope of \overleftrightarrow{AB} if $A(0, -2)$ and $B(2, -2)$?

10. What is the slope of \overleftrightarrow{CD} if $C(5, -4)$ and $D(5, 2)$?

Is this a line or a line segment? _____

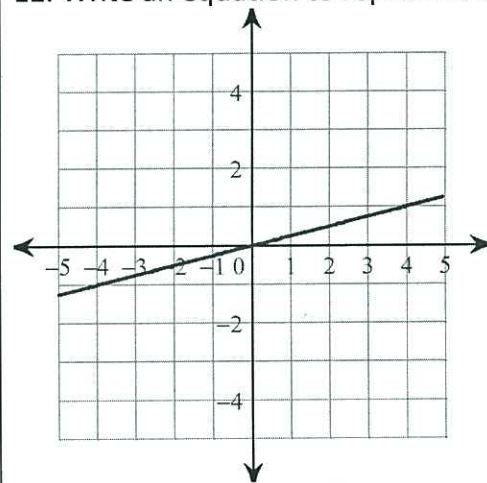
Is this a line or a line segment? _____

11. Write an equation to represent the graph below.



Y-Int: ____ / Slope: ____ / Equation: _____

12. Write an equation to represent the graph below.



Y-Int: ____ / Slope: ____ / Equation: _____

13. Challenge. You must ATTEMPT or you will you receive LaSalle. What is the value of x ?

$(x, 1)$ and $(-5, -6)$; slope: $\frac{7}{6}$

$$\frac{(-6) - (1)}{(-5) - (x)} = \frac{7}{6}$$

$$\frac{-7}{-5-x} = \frac{7}{6}$$

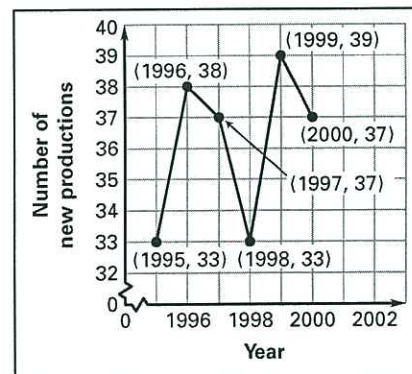
14. Challenge. You must ATTEMPT or you will you receive LaSalle.

The graph shows the number of new Broadway show productions for certain years. Find the rate of change between:

a. 1995 to 1996

b. 1998 to 1999

c. Which year had the greatest rate of change? How do you know?



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1. Find the other endpoint of the line segment with the given endpoint and midpoint.

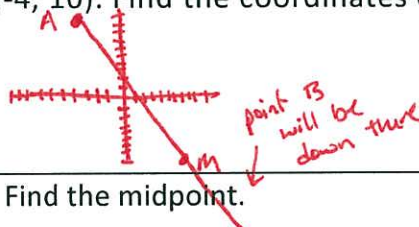
Endpoint: $(-1, -7)$, midpoint: $(-1, -9)$

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\frac{-1 + x_2}{2} = -1 \quad \frac{-7 + y_2}{2} = -9$$

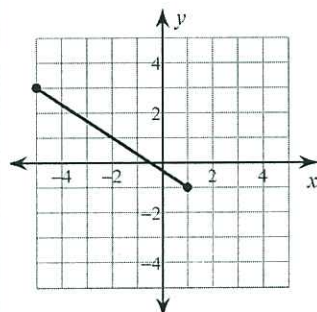
solve for x_2 and y_2

2. Find the other endpoint of the line segment with the given endpoint and midpoint.

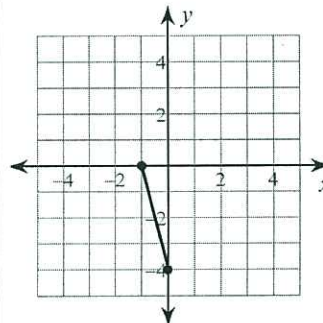
Endpoint: $(2, -10)$, midpoint: $(5, 2)$ 3. The midpoint of XZ is $M(1, 2)$. One endpoint is $X(0, -2)$. Find the coordinates of endpoint Z.4. The midpoint of AB is $M(8, -8)$. One endpoint is $A(-4, 10)$. Find the coordinates of endpoint B.

5. Find the midpoint.

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$



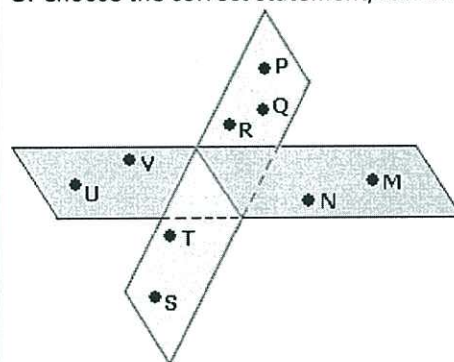
6. Find the midpoint.



7. On a particular line segment, points Q, R, and S are collinear, and R is between Q and S.

8. Choose the correct statement/statements.

a. Draw the line segment.

b. If $QR = 8$ cm and $RS = 13$ cm, what is the measure of QS?c. If $QS = 31$ inches and $RS = 7$ inches, what is the measure of QR?

- I. P, Q, R, U, and V are coplanar
- II. U, V, N, and M are collinear
- III. P, Q, R, T, and S are coplanar
- IV. M, N, T, S and P are coplanar

- A. III and IV only
- B. I and II only
- C. I only
- D. III only

PUSH IT TO THE LIMIT.

9a) A line passes through the points $(-3, 4)$ and $(4, 1)$.
What is the slope of this line?

Sketch the line:

10a) Find the slope between $(8, 10)$ and $(8, -2)$.

b) Sketch the line:

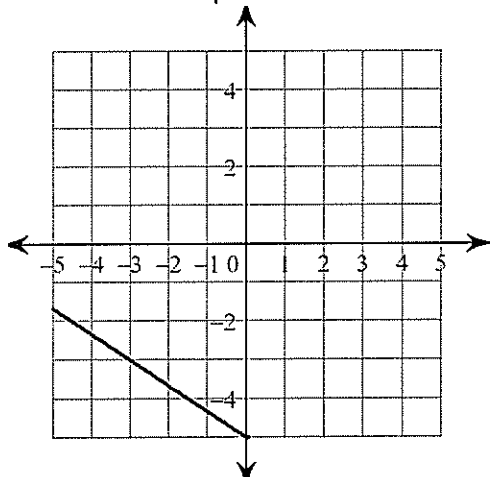
c) What do we call this kind of line?

11. Determine the rate of change in the table below:

x	y
5	2
10	3
15	4
20	5

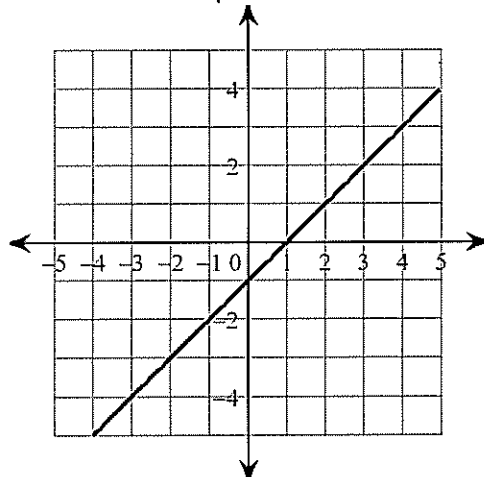
12. If $G(-2, 0)$, $H(-3, 8)$, and $L(-16, -4)$, which line has the biggest slope: GH , GL , or HL ? *Explain* how you know.

13. Write the equation of the line below:



Y-Int: ____ / Slope: ____ / Equation: _____

14. Write the equation of the line below:



Y-Int: ____ / Slope: ____ / Equation: _____

15. Challenge. *You must ATTEMPT or you will you receive LaSalle.*

$(8, -1)$ and $(x, 8)$; slope: $-\frac{9}{5}$

16. Challenge. *You must ATTEMPT or you will you receive LaSalle.* The table shows the amount of money (in dollars) spent by a household on plants and flowers for certain years. Find the rate of change between:

Year	2001	2002	2003	2004	2005
Amount spent (dollars)	127	134	139	137	136

a. 2001 to 2002

b. 2003 to 2004

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